MEASURE TITLE:
MEDNAX56: Use of ASPECTS (Alberta Stroke Program Early CT Score) for non-contrast CT Head performed for suspected acute stroke.

Measure Description:
Percentage of non-contrast CT Head performed for suspected acute stroke whose final reports include an ASPECTS value.

NQS Domain:
Effective Clinical Care

Instructions:
This measure is to be submitted each time a non-contrast CT Head (NCCT Head) is performed for suspected acute stroke during the performance period. Eligible clinicians who provide the professional component of non-contrast CT Heads will submit this measure.

Measure Reporting via the Qualified Clinical Data Registry:
The listed denominator criteria is used to identify the intended patient population. Registry codes are used to report the numerator for the measure.

Denominator:
All final reports for NCCT Head performed for suspected acute stroke.
> **Denominator Criteria (eligible cases):**
> All NCCT Head performed for suspected acute stroke
> **AND**
> Patient procedure during the performance period (CPT): 70450

Denominator Exclusions/Exceptions: None

Numerator:
Final reports for NCCT Head performed for suspected acute stroke that include an ASPECTS value.
> **Numerator Definition:**
> Inclusion of an ASPECTS value in the final report for NCCT Head performed for suspected acute stroke. Terminology in the report must include one or more of the following:
> > Alberta Stroke Protocol Early CT Score
> > ASPECTS
> > ASPECT Score
> **Numerator Options:**
> *Performance met:*
> > **MEDNAX 100A:** Report includes an ASPECTS value
> *Performance not met:*

MEDNAX 100F: Report does not include an ASPECTS value

Measure type: Process

NQF Number: Not applicable

eCQM Number: Not applicable

Rationale:
Non-contrast CT Head is the most common initial imaging modality used for assessment of acute stroke. By applying a quantitative approach to determine the extent of ischemic changes, ASPECTS provides a reliable grading system for detection of early ischemic changes in the anterior circulation on non-contrast CT Head in patients with suspected acute stroke. Several trials have demonstrated that baseline core infarct size is a predictor of endovascular reperfusion outcomes in the setting of acute stroke. Studies have also shown that patients with a large infarct burden are unlikely to benefit from endovascular reperfusion therapy and experience a high rate of symptomatic intracranial hemorrhage when treated with endovascular therapy, suggesting they should be excluded from such treatment. ASPECTS values quantify infarct size and thus are useful in predicting the likelihood of benefit and/or adverse outcomes from endovascular reperfusion therapy and in assessing patients' eligibility for treatment.

References:
1. Modi J, Menon B, and Goyal M. Alberta Stroke Program Early CT Score (ASPECTS). [Internet] [cited 3 September 2018]. Available from: http://www.ASPECTSinStroke.com
2. Schröder J and Thomalla G. A Critical Review of Alberta Stroke Program Early CT Score for Evaluation of Acute Stroke Imaging. *Front Neurol* (2017) 7(245):1-7. https://doi.org/10.3389/fneur.2016.00245
3. Yoo AJ, Zaidat OO, Chaudhry ZA, Berkhemer OA, Gilberto Gonzalez R, Goyal M, et al. Impact of Pretreatment Noncontrast CT Alberta Stroke Program Early CT Score on Clinical Outcome After Intra-arterial Stroke Therapy. *Stroke* (2014) 45(3):746–51. https://doi.org/10.1161/STROKEAHA.113.004260
4. Pexman JHW, Barber PA, Hill MD, Sevick RJ, Demchuk AM, Hudon ME, et al. Use of the Alberta Stroke Program Early CT Score (ASPECTS) for Assessing CT Scans in Patients with Acute Stroke. *Am J Neuroradiol* (2001) 22(8):1534–42.
5. Gaillard F and Sair H. Radiopaedia: Alberta Stroke Program Early CT Score (ASPECTS). [Internet] [cited 14 September 2018]. Available from: https://radiopaedia.org/articles/alberta-stroke-program-early-ct-score-aspects-1

Data Source: Claims, Medical Record, Registry
Measure Steward: MEDNAX Services, Inc.
Number of Multiple Performance Rates: one performance rate
Inverse Measure: No
Proportion Measure Scoring: Yes
Continuous Measure Scoring: No

Risk adjustment: No

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APPENDIX

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ASPECTS (Alberta Stroke Protocol Early CT Score) Methodology

1. Start with 10 points.
2. Remove 1 point for every region listed below that is involved with the infarct:
   - Caudate nucleus
   - Lentiform nucleus
   - Internal capsule (any portion)
   - Insular cortex
   - M1: anterior MCA territory (frontal operculum)
   - M2: lateral MCA territory lateral to insular ribbon (anterior temporal lobe)
   - M3: posterior MCA territory (posterior temporal lobe)
   - M4: anterior MCA territory immediately superior to M1
   - M5: lateral MCA territory immediately superior to M2
   - M6: posterior MCA territory immediately superior to M3
   - A scan with no ischemia in the MCA territory would score 10 and a scan with diffuse involvement of all MCA territory would score 0
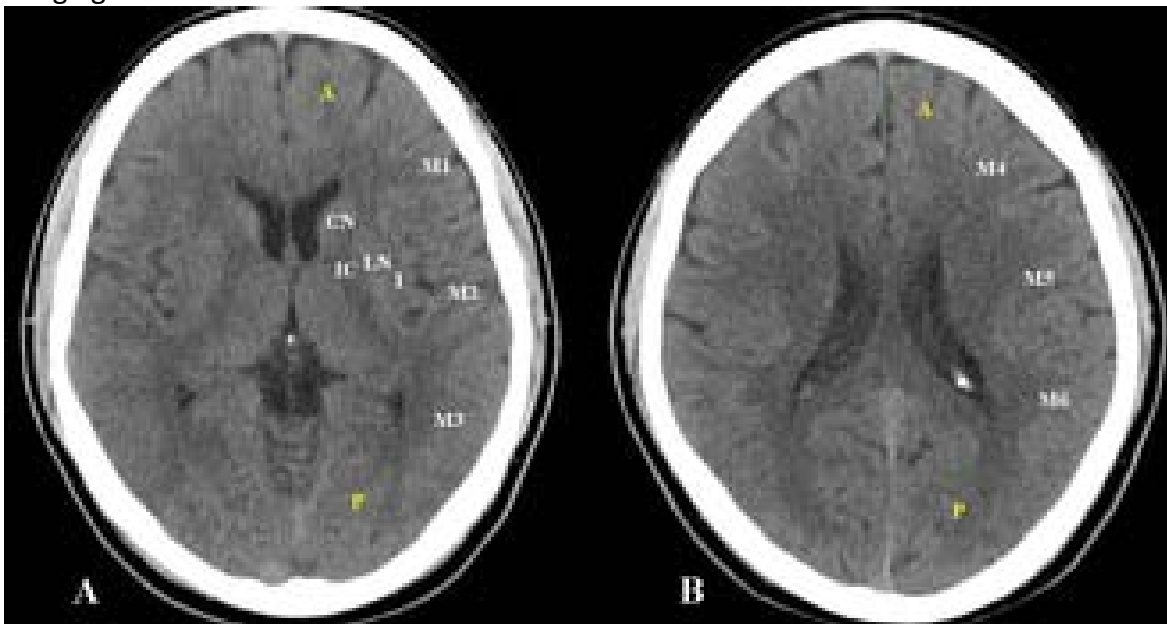
Image guides:

Image source: Gaillard F and Sair H. Radiopaedia: Alberta Stroke Program Early CT Score (ASPECTS). [Internet] [cited 14 September 2018]. Available from: https://radiopaedia.org/articles/alberta-stroke-program-early-ct-score-aspects-1